

unsubstituted or substituted, straight chain or branched chain, hydrophobic, hydrophilic or fluorophilic;

R_2 and R_3 are independently or both H or halogen;

R_9 is halogen;

Z is independently selected from R_6 , halogen, OOH, $OC(O)R_6$, oxo, amine, azide, thiol, mercaptoalkyl, alkenyloxy, mercaptoalkenyl, aryloxy, mercaptoaryl, arylalkyloxy, mercaptoarylalkyl, $SC(O)R_6$, $OS(O)R_6$, $OS(O)_2R_6$, $NHC(O)R_6 = NR_4$ or NHR_4 ; and

R_4 is OH, alkyl, alkoxy, poly(ethylene glycol), alkenyl, aryl or arylalkyl,

provided that:

when R_6 is propyl, R_2 is Br, R_3 is H or Br and R_9 is Br, then Z is other than H, $OC(O)CH_3$ or OH;

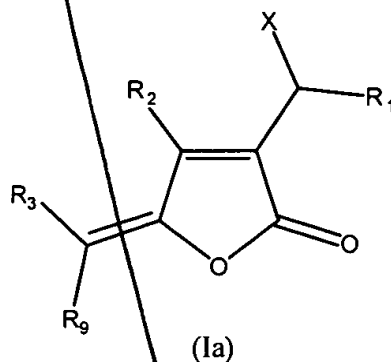
when R_6 is propyl, R_2 is Br, R_3 is H and R is I, then Z is other than $OC(O)CH_3$ or OH;

when R_6 is propyl, R_2 is Br, R_3 is H and R is Cl, then Z is other than OH;

when R_6 is propyl, R_2 is H, R_3 and R are Br, then Z is other than H; and

when R_6 is propyl, R_2 is Br, R_9 is Cl and Z is H, then R_3 is other than Cl.

2. (amended) A compound according to formula (Ia):



wherein R_1 is hydrogen, alkyl, alkoxy, oxoalkyl, alkenyl, aryl or arylalkyl whether unsubstituted or substituted, straight chain or branched chain, hydrophobic, hydrophilic or fluorophilic;

X is a halogen, OH, OOH, $OC(O)R_1$ or oxo;

R_2 and R_3 are independently or both hydrogen or halogen; and

R_9 is halogen,

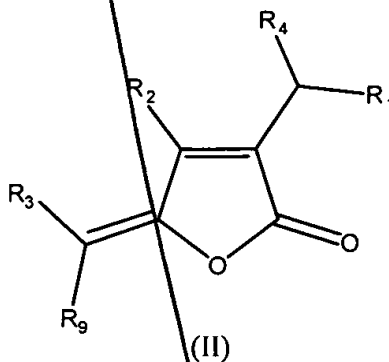
provided that:

when R_1 is propyl, R_2 is Br, R_3 is H or Br and R_9 is Br, then X is other than $OC(O)CH_3$ or OH;

when R_1 is propyl, R_2 is Br, R_3 is H and R_9 is I, then X is other than $OC(O)CH_3$ or OH;
and

when R_1 is propyl, R_2 is Br, R_3 is H, R_9 is Cl, then X is other than OH.

3. (amended) A compound according to formula (II):



wherein R_1 is hydrogen, unsubstituted or substituted, straight chain or branched chain, hydrophobic, hydrophilic or fluorophilic alkyl, alkoxy, oxoalkyl, alkenyl, aryl or arylalkyl;

R_2 and R_3 are independently or both hydrogen or halogen;

R_9 is halogen; and

R_4 is selected from halogen, amine, azide, hydroxyl, thiol, or hydrophobic, hydrophilic or fluorophilic alkyl, alkoxy, mercaptoalkylalkenyloxy, mercaptoalkenyl, aryloxy, mercaptoaryl, arylalkyloxy, mercaptoarylalkyl, $OC(O)R_1$, $SC(O)R_1$, $OS(O)R_1$, $OS(O)_2R_1$, $NHC(O)R_1$, $OC(O)NHR_1$, or oxo,

provided that:

when R_4 is propyl, R_2 is Br, R_3 is H or Br, and R_9 is Br, then R_1 is other than H, $OC(O)CH_3$ or OH;

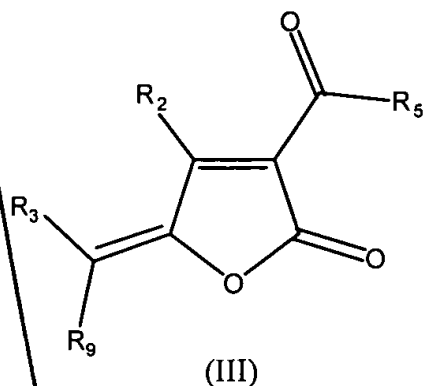
when R_4 is propyl, R_2 is Br, R_3 is H, R_9 is I, then R_1 is other than $OC(O)CH_3$ or OH;

when R_4 is propyl, R_2 is Br, R_3 is H, R_9 is Cl, then R_1 is other than OH;

when R_4 is propyl, R_2 is H, R_3 and R_9 are Br, then R_1 is other than H; and

when R_4 is propyl, R_2 is Br, R_3 and R_9 are Cl, then R_1 is other than H.

4. (amended) A compound according to formula (III):



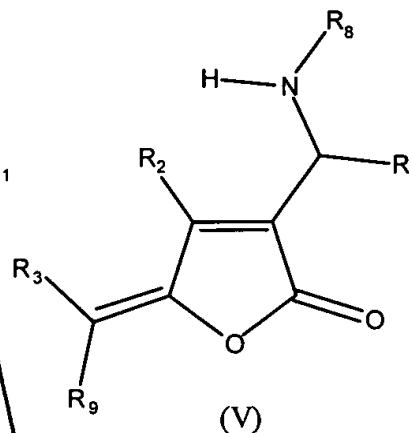
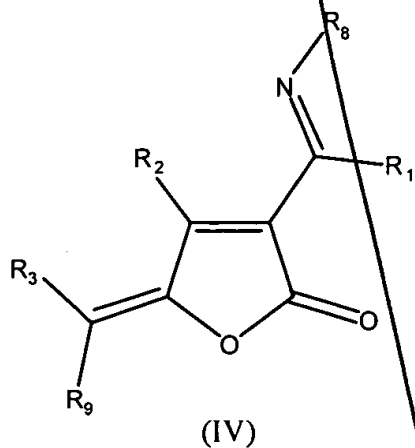
wherein R_2 and R_3 are independently or both hydrogen or halogen;

R_5 is OH or the same as R_1 ;

R_9 is halogen; and

R_1 is hydrogen, alkyl, alkoxy, oxoalkyl, alkenyl, aryl or arylalkyl whether unsubstituted or substituted, straight chain or branched chain, hydrophobic, hydrophilic or fluorophilic.

5. (amended) A compound according to formula (IV) or (V):



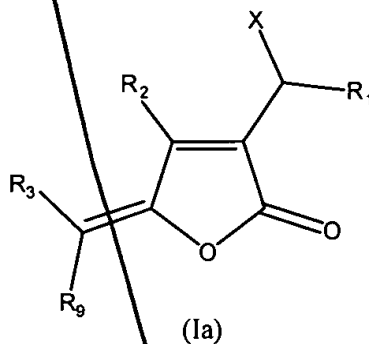
wherein R_1 is hydrogen, alkyl, alkoxy, oxoalkyl, alkenyl, aryl or arylalkyl whether unsubstituted or substituted, straight chain or branched chain, hydrophobic, hydrophilic or fluorophilic;

R_2 and R_3 are independently or both hydrogen or halogen;

R_9 is halogen; and

R_8 is OH, NHR_1 , NHC(X)NH_2 , NHC(X)NHR_1 or R_1 where X is O, S or NR_1 .

6. (amended) A method for forming a compound of formula (Ia), the method comprising reacting a fimbrolide with a halogenating agent and/or an oxygenating agent to form the compound of formula (Ia):

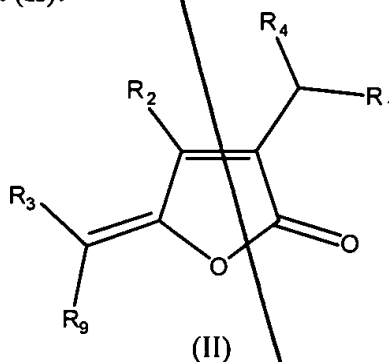


wherein R₁ is hydrogen, alkyl, alkoxy, oxoalkyl, alkenyl, aryl or arylalkyl whether unsubstituted or substituted, straight chain or branched chain, hydrophobic, hydrophilic or fluorophilic; X is a halogen, OH, OOH, OC(O)R₁ or oxo;

R₂ and R₃ are independently or both hydrogen or halogen; and

R₉ is halogen.

9. (amended) A method for forming a compound of formula II, the method comprising displacing and/or functionalizing a halogen or oxygen substituent in the side chain of a fimbrolide compound by treating the fimbrolide compound with a nucleophile or an electrophile to form the compound of formula (II):



wherein R₁ is hydrogen, alkyl, alkoxy, oxoalkyl, alkenyl, aryl or arylalkyl whether unsubstituted or substituted, straight chain or branched chain, hydrophobic, hydrophilic or fluorophilic;

R₂ and R₃ are independently or both hydrogen or halogen;

R₉ is halogen; and

R₄ is selected from halogen, amine, azide, hydroxyl, thiol, or any hydrophobic,

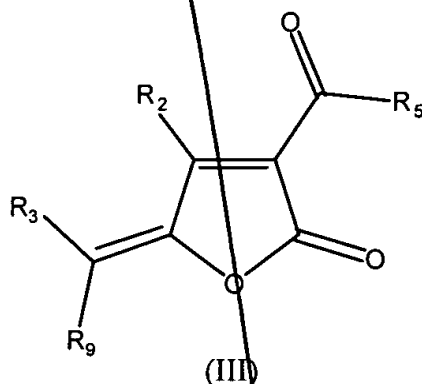
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C. 2
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B2
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hydrophilic or fluorophilic alkyl, alkoxy, mercaptoalkyl, alkenyloxy, mercaptoalkenyl, aryloxy, mercaptoaryl, arylalkyloxy, mercaptoarylalkyl, OC(O)R_1 , SC(O)R_1 , OS(O)R_1 , $\text{OS(O)}_2\text{R}_1$, NHC(O)R_1 , OC(O)NHR_1 , or oxo,

provided that when R_4 is propyl, R_2 is Br, R_3 and R_9 are Cl, then R_1 is other than H.

Sub 3
C. 3
B3

12. (amended) A method for forming a compound of formula (III), the method comprising reacting an hydroxyl substituent in the side chain of a fimbrolide with an oxidising agent to form the compound in accordance with formula (III):



wherein R_2 and R_3 are independently or both hydrogen or halogen;

R_5 is OH or the same as R_1 ;

R_9 is halogen; and

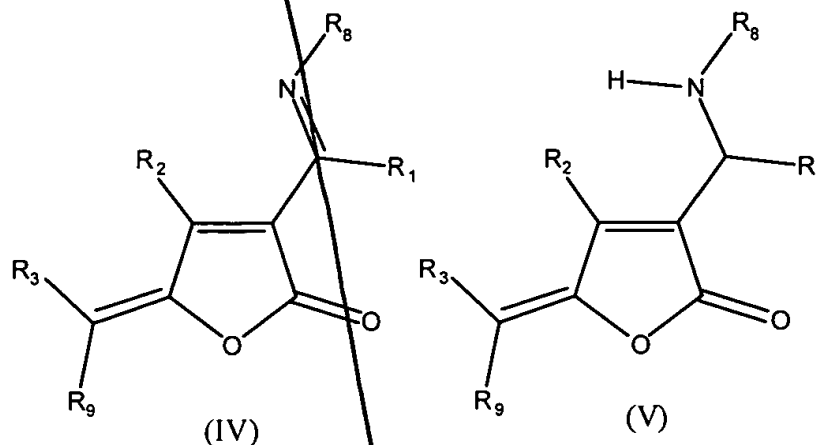
R_1 is hydrogen, alkyl, alkoxy, oxoalkyl, alkenyl, aryl or arylalkyl whether unsubstituted or substituted, straight chain or branched chain, hydrophobic, hydrophilic or fluorophilic.

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14. (amended) A method according to claim 13, wherein the acid dichromate agent is selected from the group consisting of a Jones reagent, pyridinium chlorochromate, and pyridinium dichromate.

15. (amended) A method for forming a compound of formula (IV) or (V), comprising reacting an aldehyde or ketone substituent in the side chain $-C(O)R_5$ of compound (III) with an amine to form a compound of formula (IV) or (V),

wherein formula (IV) and (V) are represented by:



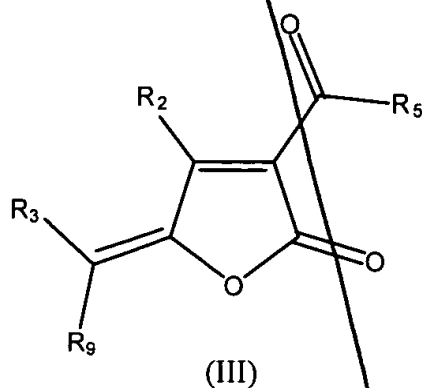
wherein R_1 is hydrogen, alkyl, alkoxy, oxoalkyl, alkenyl, aryl or arylalkyl whether unsubstituted or substituted, straight chain or branched chain, hydrophobic, hydrophilic or fluorophilic;

R_2 and R_3 are independently or both hydrogen or halogen;

R_9 is halogen; and

R_8 is OH, NHR_1 , $NHC(X)NH_2$, $NHC(X)NHR_1$ or R_1 where X is O, S or NR_1 ;

and wherein formula (III) is represented by:



wherein R_2 and R_3 are independently or both hydrogen or halogen;

R_5 is OH or the same as R_1 ;

*Sub 4
C.4
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R_9 is halogen; and

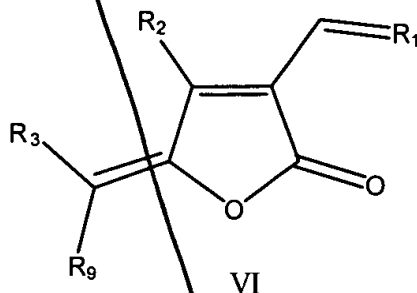
R_1 is hydrogen, alkyl, alkoxy, oxoalkyl, alkenyl, aryl or arylalkyl whether unsubstituted or substituted, straight chain or branched chain, hydrophobic, hydrophilic or fluorophilic.

16. (amended) A method according to claim 15, wherein the amine is selected from hydroxyl amine hydrochloride, alkyl and aryl hydrazines, alkyl or aryl amine, optionally in the presence of a reducing agent.

17. (amended) A compound produced by the method of claim 6.

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25. (amended) A compound of formula (VI):



wherein R_1 is alkyl, alkoxy, oxoalkyl, alkenyl, aryl or arylalkyl whether unsubstituted or substituted, straight chain or branched chain, hydrophobic, hydrophilic or fluorophilic;

R_2 and R_3 are independently or both hydrogen or halogen; and

R_9 is halogen.

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27. (amended) A compound produced by the method in accordance with claim 9.

28. (amended) A compound produced by the method in accordance with claim 12.

29. (amended) A compound produced by the method in accordance with claim 15.